

REMARKS

Upon entry of this Response, claims 1-23 remain pending in the present Patent Application. Claims 1, 5, 6, 7, 11, 12, 13, 17, 18, 19, and 20 have been amended herein and claims 21-23 have been added. Applicant respectfully requests reconsideration of the pending claims in view of the following remarks.

In item 1 of the Office Action, the drawings have been objected to for the formalities noted. Specifically, the reference number "444" included in FIG. 9A is not discussed in the specification. An appropriate amendment to the paragraph in the specification at page 20, line 25 to page 21, line 2 has been made to include such reference number therein. Accordingly, Applicants request that the objection to the drawings be withdrawn.

Next, in item 2 of the Office Action, the disclosure has been objected to for the formalities noted. Appropriate amendments to the specification have been made to address the items noted. Accordingly, Applicants respectfully request that the objection to the specification be withdrawn.

In addition, an amendment to an additional paragraph is presented herein to correct a further typographical error that was found in the paragraph located on page 13, line 32 to page 14, line 4. First, a grammatical correction was made to correct a fragment sentence. Also, the term "minimum" was replaced with "maximum" to accord with the fact that the LED currents may be decremented as claimed in the claims as originally filed. As such, this alteration does not constitute new matter.

In addition, in item 4 of the Office Action, claims 1-20 have been rejected under 35 U.S.C. §103(a) as being unpatentable over US Patent 5,995,243 to Kerschner et al. in view of US Patent Application Publication No. 2001/0026011-A1 to Roberts et al. and US Patent 4,982,203 to Uebbing et al. A prima facie case of obviousness is established when the teachings from the prior art itself would appear to have shown or suggested the claimed subject matter to a person of ordinary skill in the art. In re Rijckaert, 9 F.3d 1531, 28 U.S.P.Q2d 1955, 1956 (Fed. Cir. 1993). Applicants assert that claims 1-20 are allowable over the cited combination of prior art references for the reasons that follow. Accordingly, Applicants respectfully request that the rejection of claims 1-20 be withdrawn.

To begin, independent claim 1 as amended recites:

1. (Currently Amended) A method for determining a light output of a light emitting diode (LED) in a scanner, comprising:

applying a first current to the LED to generate the light output of the LED during a first time period;
obtaining a first measure of the light output of the LED during the first time period with a number of sensors in a sensor array;
applying an altered current to the LED to generate the light output of the LED during a second time period;
obtaining a second measure of the light output of the LED during the second time period with the sensors in the sensor array; and
detecting a saturation of the sensors in the sensor array
by comparing a difference between the first measure of the light output and the second measure of the light output with a predefined difference threshold ~~to detect an optimum light output.~~

Applicants respectfully submit that the cited combination of references fails to show or suggest all elements of claim 1 as amended. Specifically, claim 1 has been amended to recite the step of "detecting a saturation of the sensors in the sensor array by comparing a difference between the first measure of the light output and the second measure of the light output with a predefined difference threshold."

Applicants assert that none of the cited prior art references, namely, Kerschner, Roberts, or Uebbing show or suggest this element.

Specifically, Kerschner discusses a "white level calibration process" that adjusts the length of an "on" time of the LEDs using a "pulse width modulation (PWM) circuit" to ensure that a "target white point value" is maintained. Roberts discusses a radiation emitter device such as an LED mentioning the fact that the "luminous intensity and illuminance from LEDs closely approximates a linear response function with respect to applied electrical current over a broad range of conditions, making control of their intensity a relatively simple matter." Uebbing discusses an apparatus and method to correct for an amount of degradation in light output of LEDs. However, none of these references shows or suggests detecting a saturation of the sensors in the sensor array as claimed.

Therefore, Applicants assert that claim 1 is allowable over the cited combination of Kerschner, Roberts, and Uebbing. In addition, independent claims 7, 13, 19, and 20 have been amended in a manner similar to claim 1 as described above and therefore are allowable over the cited combination or references for the same reasons discussed with reference to claim 1. Also, Applicants assert that claims 2-6, 8-12, and 14-18 are allowable over the cited combination of references as depending from claims 1, 7, and 13, respectively. Accordingly, Applicants request that the rejection of claims 1-20 be withdrawn.


In addition, Applicants point out that the amendments to claims 5, 6, 11, 12, 17, and 18 have been made merely so that such claims accord with the amendments made to claims 1, 7, and 13.

Finally, claims 21-23 have been added to further claim the present invention. Favorable action with respect to these claims is requested.

CONCLUSION

Applicants respectfully request that all outstanding objections and rejections be withdrawn and that this application and all presently pending claims be allowed to issue. If the Examiner has any questions or comments regarding Applicants' response, the Examiner is encouraged to telephone Applicants' undersigned counsel.

Respectfully submitted,



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